

WHAT IS CLAIMED IS:

1. A high density fabric for air bag wherein air permeability under a differential pressure of 50 kPa is 2.5 L/cm²/min. or less, and air permeability index (50 kPa) calculated by the formula (1) is 1.2 or more.

Air permeability index (50 kPa)

$$= (\text{Log}(Q(55 \text{ kPa})) - \text{Log}(Q(45 \text{ kPa}))) / (\text{Log}55 - \text{Log}45) \quad (1)$$

Q(55 kPa): air permeability under 55 kPa differential pressure (l /cm²/min.)

Q(45 kPa): air permeability under 45 kPa differential pressure (l/cm²/min.)

2. The high density fabric for air bag according to claim 1, wherein the air permeability (50 kPa) is 1.3 or more.

3. The high density fabric for air bag according to claim 1, wherein the difference in crimp percentage between warp and weft is 4 % or more.

4. The high density fabric for air bag according to claim 1, wherein the degree of intermingle of raw yarn before weaving is 10 to 30 times/m.

5. The high density fabric for air bag according to claim 1, wherein a cover factor calculated by the formula (2) in the high density fabric is in the range of 1800 to 2400.

$$\text{Cover factor} = A^{0.5} \times (W1) + B^{0.5} \times (W2) \dots\dots\dots (\text{Formula 2})$$

A: Coarseness of warp (dtex)

B: Coarseness of weft (dtex)

W1: Density of warp (stripes/in.)

W2: Density of weft (stripes/in.)

6. The high density fabric for air bag according to claim 1, wherein the degree of intermingle of warp or weft of the high density fabric is 8 times/m or less.

7. A method for manufacturing a high density woven fabric comprising the step of weaving a high density woven fabric with the fiber filling percentage in the reed at the time of the weaving defined by the following formula to be 110 or less.

$$\text{Fiber filling percentage (\%)} = 11.3 \times N \times (D/\rho)^{0.5} / (\alpha / L)$$

N: Coarseness of yarn to be inserted in a reed wire (dtex)

D: Coarseness of warp (dtex)

ρ : Density of fiber (g/cm²)

α : Reed space percentage (%)

L: Number of reed wires (string/cm)

8. The method for manufacturing a high density woven fabric according to claim 7, wherein the fiber filling percentage in reed is 100.

9. The method for manufacturing a high density woven fabric according to claim 7, wherein the fiber filling percentage in reed is 90 or less.

10. The method for manufacturing a high density woven fabric according to claim 7, wherein the fiber filling percentage in reed is 80 or less.

11. The method for manufacturing a high density woven fabric according to claim 7, wherein the cover factor of the high density woven fabric defined by the following formula is in the range of 2000 - 2500.

$$\text{Cover factor} = A^{0.5} \times (W1) + B^{0.5} \times (W2) \dots\dots\dots (\text{Formula 2})$$

A: Coarseness of warp (dtex)

B: Coarseness of weft (dtex)

W1: Density of warp (stripes/in.)

W2: Density of weft (stripes/in.)

12. The method for manufacturing a high density woven fabric according to claim 7, wherein the space percentage of the reed wires is preferably in the range between 45 % and 70 %.

13. The method for manufacturing a high density woven fabric according to claim 7, wherein the yarn before weaving is non-twist.